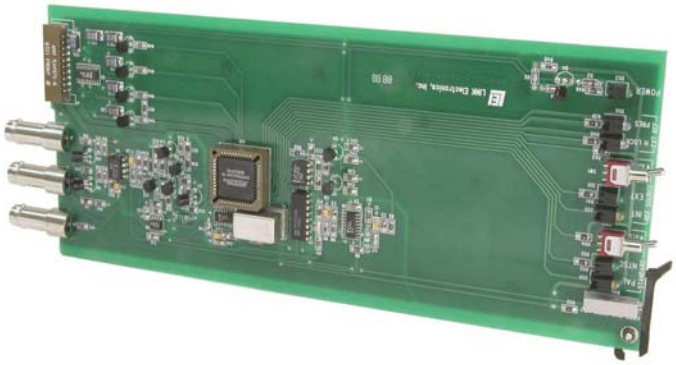
DIGITAL SDI GEN-LOCK

812-OP/D

MADE IN THE USA



For Future Generations

The 812-OP/D accepts digital blackburst to gen-lock to an external source. The genlock cell is slot number two. All other modules lock to the 812-OP/D. Whether module 812-OP/C or 812-OP/D, all other modules lock to whatever in cell number two. The number two module will produce the necessary lock pulses for all of the other modules in the chassis. The remaining four cell will accept a digital or analog test of black module.

The 812-OP/D digital genlock module takes in a stable digital black burst signal and genlocks to it. This is accomplished by stripping horizontal sync off of the in coming black burst signal and doing a phase and frequency lock to a very stable 27 MHz VCXO. The phase-lock-loop has a LED indicator that signals green when horizontal lock is obtained and signals red when no lock is obtained. The 27 MHZ signal, clocks a complex programmable logic device that generates all the necessary pulses that are needed for the rest of the modules. The pulses are buffered and sent down the mother board buss.

This complex programmable logic device also takes in stripped vertical sync and field identification pulses and resets appropriate counters within the device. This develops output pulses that are in proper time and phase with incoming video.

The 812 OP/D digital genlock module also has a video presence detector that controls if the module is in genlock or free-run. A bicolor LED is used for a video presence indicator, whenever video is present the LED turns green and whenever there is no video present the LED turns red. If there is no video to the module, it then automatically switches over to a free-run frequency condition and a front panel control is used to adjust the dc volte of the VCXO. This then changes the frequency of the 27 MHZ oscillator.
Reference source selection can be accomplished in three ways:

1. No video, the module would automatically switch over to its internal reference source.

2. Manually switching the front pane! switch AUTO/INT over to its internal reference source.

3. Applying video and having the AUTO/INT switch paced in the AUTO mode. The module is then running in proper genlock mode.

Whenever, the 812 OP/D genlock module is placed in its INT, internal reference source a front panel yellow LED indicator lights up and the module is free-running on its internal oscillator. Whenever, the 812 OP/C genlock module.

The PCO-818 automatic pulse change-over modules operate as independent or synchronized operation. Two PCO-818 change-over chassis may be interlinked to cause all modules to switch should a failure occur in the master generator.

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812-OP/D GENLOCK TO SDI BLACKBURST

SPECIFICATIONS

INPUT VIDEO:

Input Coupling	Single-ended AC coupled
Video Level	800mV +/- 10%
Impedance	75 Ohms +/- 1% source terminated

OUTPUT VIDEO ON BNC #2 and #3:

Impedance	75 Ohms +/- 1% source terminated
Number of Outputs	2
Standards	SMPTE: 259M-C; 270Mb/s, 525/625 Component
Connector	BNC
Return Loss	>25dB
Signal Level	800mV +/- 10%
DC Offset	0V +/- 0.1V
Rise Time	600pS (20 to 80% Amplitude)
Fall Time	500pS (20 to 80% Amplitude)
Low frequency jitter	0.08 unit intervals
Alignment jitter	0.16 unit intervals

ENVIRONMENTAL:

Temperature	0 to 50 C ambient
Humidity	10% to 90% non-condensing
Power	3.8 Watts

MECHANICAL:

Length	10.0"
Width	4.27"
Weight	5.5 oz

FRONT PANEL LED INDICATORS:

Power	Green/ power is on
Video presence	Green/video present Red/no video
H-Lock	Green/horizontal is locked to incoming H/Red horizontal is unlocked
EXT	Green/module is in AUTO mode (SW2 placed in AUTO mode)
INT	Yellow/module is in INT mode (SW2 placed in INT.mode)
NTSC	Green/SW1 is selecting NTSC
PAL	Yellow/SW1 is selecting PAL

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